

Status of MCC11

T. Yang

ProtoDUNE Sim/Reco Meeting

Aug 29, 2018

Plan for MCC11

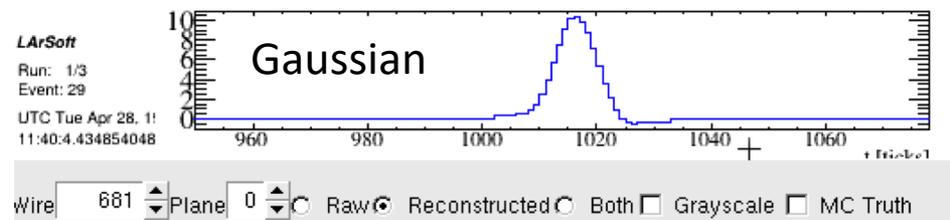
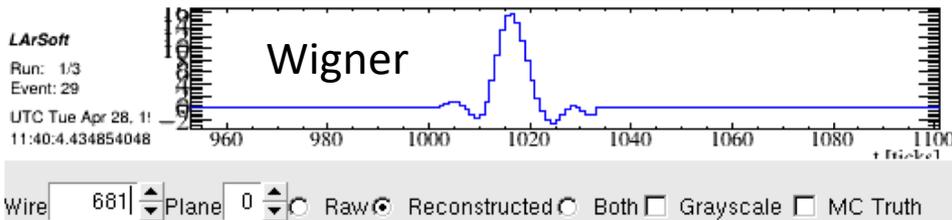
- Changes/updates in MCC11
 - Readout window size reduced from 10k to 6k (Leigh Whitehead)
 - Beam instrument information (Pablo Fernandez, Leigh Whitehead)
 - Updated CRT locations (Martin Tzanov)
 - CRT readout simulation (Andrew Olivier)
 - Updated space charge effects with liquid flow (Mike Mooney, Hannah Rogers, Erik Voirin)
 - dQ/dx and dE/dx calibration and database interface (Ajib Paudel, Jon Paley)
 - Improved Pandora reconstruction (Steve Green, et al.)
 - Updated photon detector channels (Alex Himmel, Chris Macias)
 - Other incremental improvements
- Test sample using v07_02_00:
 - `/pnfs/dune/scratch/users/tjyang/MCC11-test/ProtoDUNESP/v07_02_00/reco/mcc11_protodune_beam_p-7GeV_cosmics_3ms_sce/files.list`

Issues resolved

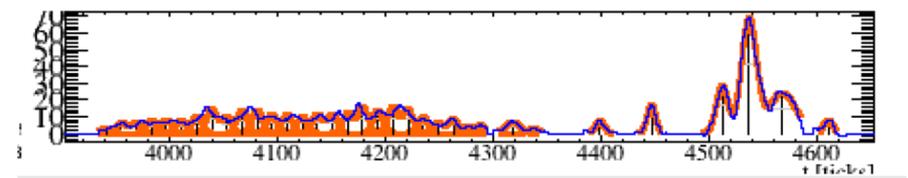
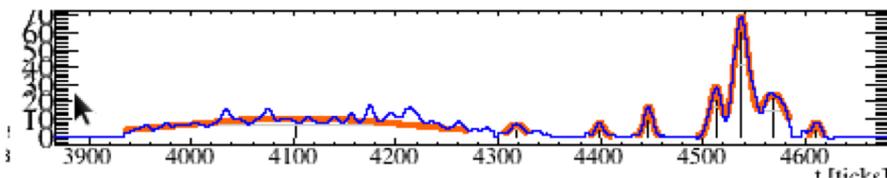
- Alex fixed the photon detector channel numbers
 - He will give a talk on this later
 - Fixed in dunetpc v07_03_00
- SCE electric field map was fixed
 - Ajib found a problem with the implementation of electric field map with SCE
 - Hannah confirmed and fixed the field map
 - Fixed in dunetpc v07_03_00
- Chris Backhouse fixed an issue in SpacePointSolver to handle hits with negative width
 - Fixed in this week's larsoft release

Changes to low level reconstruction

- Noise filter will be changed from Wigner filter to Gaussian filter in deconvolution to reduce wiggles.

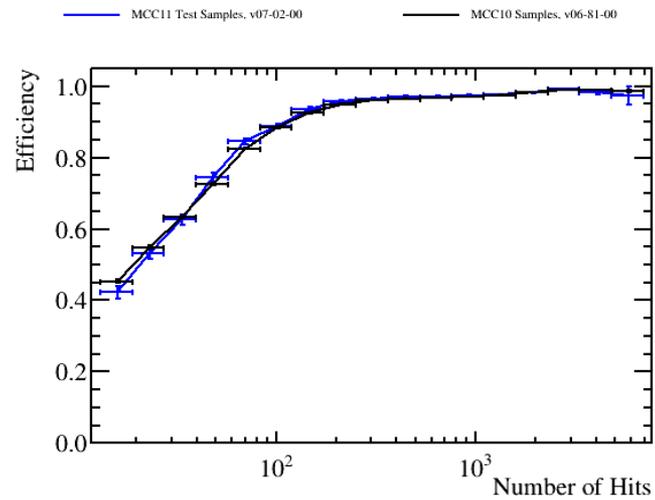
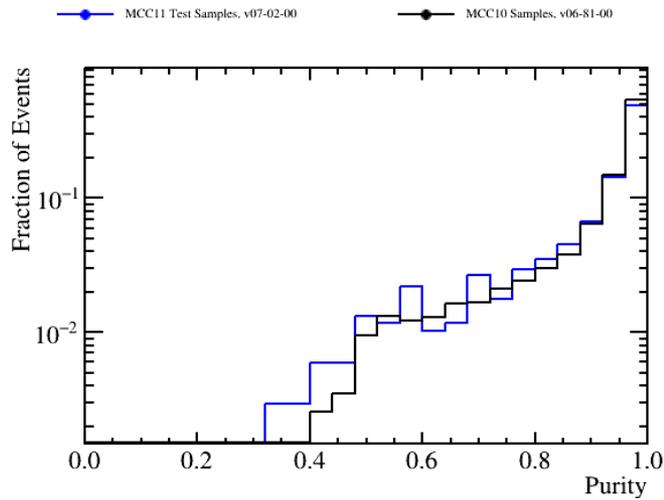
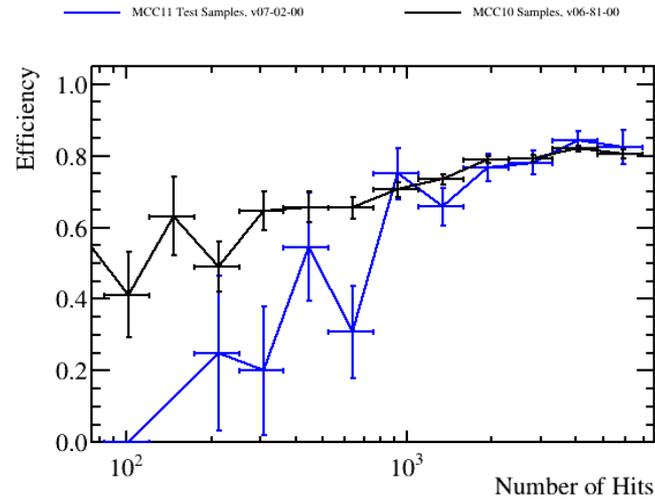
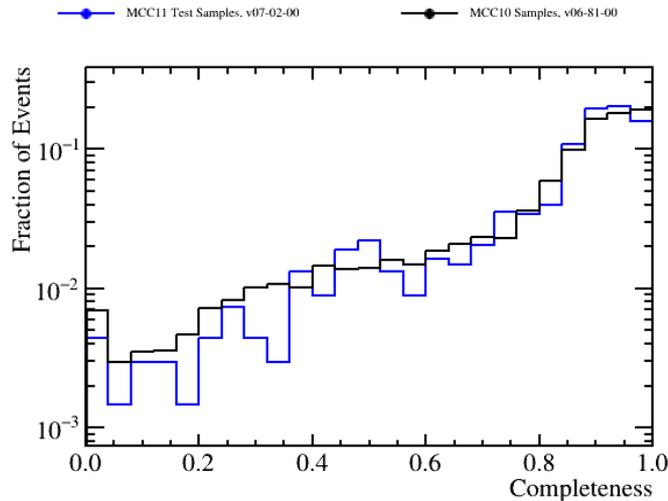


- GausHitFinder will be configured to reconstruct a series of narrow hits for a long pulse (Bruce)



Pandora Validation

Steve Green



Plans

- Start MCC11 simulation with v07_03_00.
- Start MCC11 reconstruction with v07_04_00.